THE
BOSTON MEDICAL AND SURGICAL JOURNAL.

New Series.] Thursday, December 22, 1870. [Vol. VI.—No. 25.

Original Communications.

ON THE ETIOLOGY OF ACQUIRED DEAF-MUTISM, HAVING ESPECIAL REFERENCE TO THE EFFECTS OF SCARLET FEVER.

By Clarence J. Blake, M.D. Read before the Boston Society for Medical Observation.

In a valuable paper upon the Etiology of Congenital Deaf-mutism, read before the New York Academy of Medicine in 1868, Dr. Roosa says:—"We may divide deaf-mutes into two great classes. 1. Those in which the deafness has occurred after birth, from some traceable cause, which is generally an inflammation of some part of the auditory apparatus. These are the so-called *acquired* cases. They form a very large proportion of the whole number, as is well known. In Ireland, quoting from Wilde's statistics, more than one half plainly belonged to the acquired; and other statistics exhibit the same proportion. The second class comprises those who are assumed to have been born deaf—the congenital cases. It would be interesting to note, did time and the occasion permit, the various causes which have produced these acquired cases, which do so much to fill our deaf and dumb asylums. We should find that very many of them were preventible, in the ordinary sense of the word, and that medical science has somewhat to reproach itself with, in the occurrence of so many of such cases."

In reporting the 41 cases of deaf-mutism which have come under my observation, I wish to consider particularly those belonging to the class referred to in the paragraph above quoted, and more especially the cases in which the loss of hearing is traceable to scarlet fever.

The statistics of deaf-mutism, as they are usually obtained, are eminently unsatisfactory. They are founded almost entirely upon the statements of non-medical observers, who do not appreciate the importance of giving careful answers to the questions in the census blanks, or who, through ignorance, are unable to answer understandingly, and the statements as to the cause of deafness and present condition of the patient are not substantiated by a proper examination. A glance at a series of these statistical returns, taking for instance the blanks issued by our own Board of State Charities, will show this very plainly. Such questions as concern hereditary tendency, intermarriage of relations, age at which the deafness was first noticed, and the present degree of hearing, are often left unanswered, and the probable cause is put down as "sores in head," "colic," "a burn," "a fall," "fits," "mother-marked," &c. Very little is contributed to our knowledge of the etiology of deaf-mutism by such replies as these, and the acquirement of a correct history of any case through the medium of the statistic blanks, or even by direct questioning, is rendered particularly difficult from two causes—1. It is by no means easy, without careful examination, to determine whether a child under two years of age is in full possession of hearing power or not, even a marked diminution of hearing readily passing unnoticed. 2. Should absence or decided diminution of hearing be noticed at that age or even later, the parents are prone to refer the affliction to some infantile malady, either because that event attracted their attention to the loss of hearing, or, as is often the case, there is an objection to admitting the probability of a congenital malformation. In Sir Wm. Wilde's Irish statistics about 50 per cent. of all cases of deaf-mutism are recorded as acquired. Hawkins* gives two lists, one of 255 and the other of 318 deaf-mutes, the proportion of acquired cases being 33 and 26 per cent. respectively. Dr. Roosa,† in a report upon the New York and Hartford institutions, finds 39 per cent. belonging to this class; and Mr. Toynbee, as the result of careful examinations in 411 cases, finds but 98 out of that number, or about 24 per cent., in which the deafness is the effect of different diseases acquired subsequent to birth. Of 265 cases reported to the Massachusetts Board of State Charities, but 94, or about 35 per cent., can be classed as non-congenital. These few reports show great discrepancy.

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* Hawkins on the Constitution of the Deaf and Dumb, pp. 22 and 23.

† Am. Journal of Med. Sciences, vol. liii. p. 399.

In order to arrive at any definite idea as to the cause of the deafness, it is necessary to first get the history of the case as clearly as possible, and then make a personal examination to determine the degree of hearing, the integrity of the nervous apparatus and the condition of the outer and middle ear. It is rather a peculiarity of deaf-mute children that they deceive themselves with regard to the degree of hearing which they possess; and, moreover, try to deceive others; we have to be on our guard, then, against simulation, not of deafness but of hearing; care is particularly needed in testing the perception of sound conducted through the bones of the head that they do not mistake the thrill of the vibrating tuning-fork or the jar of the repeater for the sound. To determine this, after the ordinary test, the instrument should be brought in contact with the fleshy part of the neck or the shoulder; if the patient still affirms that he hears the sound, we may infer that he was mistaken in the first place, for the sound is not readily conveyed to the ear through the soft structures, while the vibration is plainly perceptible at the point of contact. The attention of the patient being otherwise engaged, the hearing may be tested by loud noises—clapping of the hands, striking of a bell or repeater, or the upper tone of a prismatic tuning-fork, commencing first at a distance and gradually approaching; should any perception be noticed, each ear may then be tested separately. To determine the perception of sound transmitted to the middle ear and labyrinth through the bones of the head, the tuning-fork may be employed, being held between the teeth and applied successively over the mastoid process, in front of the ear, at the apex and at the junction of the sagittal and occipital sutures. I mention this last point particularly, because I have sometimes found that the tuning-fork was heard here better than at the apex. Where there is no perception of sound entering the ear through the meatus, the "bone-conduction" may be tested by the sharp upper tone of the tuning-fork; but where there is even a slight degree of hearing, the use of the lower tone, obtained by affixing the clamps, is advisable.

Following these tests, the ear is examined in the usual way. Sigle's speculum is very useful to determine the mobility of the membrana tympani in children, who cannot be catheterized or made to use Valsalva's method of inflation.

Of the 41 cases thus examined, all of those where the history gave no clue to the cause of deafness, and where the loss of hearing was noticed before the age of two years, or where, under the latter circumstance, it was referred to some one of the diseases incident to childhood, were put down either as congenital or doubtful, unless the ear showed positive traces of inflammatory action, thus excluding several from the list of acquired cases, which, nevertheless, numbered 17 out of the 41 or 40 per cent.

In 12 of the acquired cases, there had been perforation or destruction of the membrana tympani on one or both sides. In 13 out of the 17, the deafness was traceable to scarlet fever or measles, 11 of the 13 being scarlet fever, or 27 per cent. of the whole number having lost their hearing as the result of this terrible disease. In comparing these with the other acquired cases, we find that the marks of active inflammation in the middle ear are more decided, that there is more extensive lesion of the sound transmitting apparatus, and that there is less perception of sound.

In the first of the scarlet fever cases there was on each side a large cicatrix including almost the whole membrana tympani.

In the second, on each side, large perforation, with copious offensive discharge from the middle ear.

In the third, destruction of the membrana tympani on each side; in one ear the ossicula were wanting, and in the other there was a polypus springing from the promontorium.

In the fourth, destruction of the membrana tympani on each side, with occasional copious and offensive discharge.

In the fifth, destruction of the membrana tympani on each side, on one side the membrane having been replaced by cicatricial tissue.

In the sixth, a thin, offensive secretion, filling the ear on one side, on the other a cicatrix.

In the seventh, large perforation on each side, the rim of membrana tympani remaining, fallen inwards and in contact with the opposite wall of the tympanum.

In the eighth, large perforation on one side, malleus and incus wanting, and stapes visible in situ.

In the ninth, destruction of the membrana tympani on one side, and a large cicatrix on the other.

In the remaining cases the membrana

tympani was either very concave and irregular, or else showed calcareous deposit or a small cicatrix. Of the other acquired cases, two had calcareous deposits, and two destruction or perforation of the membrana tympani. In the majority of the congenital cases, the membrane was either normal, or else abnormally concave, and slightly thickened. The meatus was normal, and the auricle well formed in all of the 41 cases. The scarlet fever cases were especially liable to increased secretion from the mucous membrane of the pharynx and nostrils, following exposure to cold, and in several there was enlargement of the tonsils. All of the 41 cases were over 5 years of age, and, with but two exceptions, could articulate, some of them only a few words, but sufficient to show that they were not really dumb. In reviewing our material, we find then that the deaf-mutism, in something more than one half of the cases, is due to remote causes, concerning which very little is known, over which we can have no direct control, and which do not come immediately within our province as practitioners of medicine and surgery. In the remaining cases the deafness is caused by injury to some part of the auditory apparatus, the result of diseases in childhood which generally come under the eye of a physican.

We find, furthermore, that in a large majority of the acquired cases, the disease has been scarlet fever, and that this affection has been the most destructive to the structures of the middle ear.

The first question that naturally arises is, What is the course of the disease in the ear? The second, Can the disastrous result be prevented? The answer to the first question helps us to the solution of the second.

The Eustachian tube, which serves both as drain and ventilating shaft to the middle ear, gradually narrows as it ascends, till at about an inch from the faucial orifice it has a diameter of but from 1 to 2 m.m.; it is lined throughout with mucous membrane, continuous with that of the pharynx and tympanum. In the latter cavity, the mucous membrane forms the inner coat of the membrana tympani, envelopes the ossicula, and serves both as lining membrane and periosteum.

The inflammation of the mucous membrane of the fauces, so common in scarlatina, readily extends to the middle ear up the Eustachian tube. The first result is closure of this passage at its narrowest point; meanwhile the inflammation set up in the tympanum gives rise to increased secretion, and finally suppurative discharge, for which there is no natural outlet but that leading to the mastoid cells. As the accumulation increases, there is pressure upon the fenestræ inwards, and upon the membrana tympani outwards; the latter shares in the inflammation, and in consequence of that and the increasing pressure, finally becomes perforated, allowing the fluid to escape into the meatus. When this happens, the membrana tympani sometimes almost seems to melt away, so rapid is the enlargement of the opening. Where the membrana tympani is naturally thick, or has become so from a previous inflammation, this stage may not be reached until there is an extension of the affection to the mastoid, or to the labyrinth. In the former case, we have an increased danger; in the latter not only that, but also the prospect of grave permanent injury.

The symptoms at the commencement are usually a sensation of heat and fulness about the ear, severe pain aggravated by movements of the jaw, tinnitus and diminution of hearing. An examination of the ear shows the inner end of the meatus somewhat reddened, the manubrial plexus congested, the membrana tympani sometimes more concave than normal, and if not thickened apparently reddened.

As suppuration sets in, the pain becomes more severe, the tinnitus and deafness increase, the membrana tympani, pushed outwards by the accumulated secretion, is of a deep red or dirty yellowish color, and the inner end of the meatus congested.

The perforation of the membrane and liberation of the secretion generally give immediate relief from the pain, sense of fulness, and the tinnitus (while the hearing is improved). This often does not occur, however, until the labyrinth has become implicated, or the attachments of the ossicula so far destroyed that the malleus, incus, and sometimes the stapes also, come away with the subsequent discharge.

The course of the inflammation suggests the treatment for the different stages, which must, of course, be modified according to the type of the original disease, and the general condition of the patient; but the readiest means of relieving the local inflammation is the application of leeches in front of the ear and over the mastoid process. In the second stage, when the purulent secretion is gathering within the tympanum, we have only to follow the course which nature points out, and anticipate the rupture of the membrana tympani by making a free incision, at the point of greatest prominence of the membrane, which shall be sufficiently large to offer a ready exit to the pent up secretion. By this simple operation, which may be performed with any long narrow-bladed knife, we not only relieve the immediate distress, but it may be the means of saving the hearing, or even the life, of the patient. The double function of the membrane lining the tympanum renders necrosis the very possible result of continued active inflammation. The fact that it forms the outer coat of the membranes of the fenestræ, and the inner coat of the membrana tympani, that it is reflected over the ligaments of the ossicula, as well as the ossicula themselves, and that its vessels anastomose largely with those of underlying structures, shows how easily it may communicate to the labyrinth, and to the sound transmitting apparatus, the inflammation which it has received from the pharynx, while in children the numerous anastomoses between the vessels of the tympanic mucous membrane and the dura mater, through the fissura petroso-squamosa, open the way for a later and still more dangerous complication. The paracentesis then is not only valuable as preventing destruction within the membrana tympani, but in that membrane itself it substitutes a clean cut through a comparatively healthy structure, which readily heals, for a large opening accompanied by the condition of the ear exhibited in the cases which have formed the particular subject of this paper.

DEFECTS OF OCULAR REFRACTION, &c.

(Continued from page 357.)

Lecture IV.—*Hypermetropia.*

In the last lecture it was seen that convex glasses are the appropriate remedy for presbyopia, a defect of the accommodation, which gradually progresses as years advance, and in general affects all persons. We come now to consider their use in a different affection, hypermetropia, to which only certain persons, comparatively few, are subject. This last is an anomaly of the *refraction*, conventionally so-called, and in consequence of it the *far-point* is removed, in a certain sense, farther from the eye, that is, to a position *behind* the eye. Although convex glasses are equally applicable as a remedy in both presbyopia and hypermetropia, the two latter must be carefully distinguished from each other; especially is it to be remembered that, though the presbyope does not in general need convex glasses till about the age of 45 years, the hypermetrope may require them at a much earlier period, even in childhood.

To the above statement of the comparative rarity of hypermetropia must be excepted the case of *hypermetropia acquisita*; this is a small degree of the anomaly, showing itself late in life in eyes previously emmetropic, and attributed to senile changes, probably in the density of the crystalline lens. The same cause tends to diminish the refraction a little in ametropic eyes late in life; that is, to increase the hypermetropia in eyes previously hypermetropic, and to diminish the myopia in myopic eyes.

The optical definition of hypermetropia is that state of refraction in which the focus for parallel rays is behind the retina; so that such an eye, in the absence of accommodative action, requires that a pencil of rays meeting the cornea should already be convergent towards the cornea, if they are to come to a focus on the retina. This is otherwise expressed by saying that the far-point is *behind* the eye; we have previously seen that the far-point is the point of origin or meeting of those rays which, in the absence of accommodative action, or when the refractive power of the eye is at its minimum, come to a focus on the retina.

In this definition are involved several properties important to be noticed:

1st.—Such an eye is *relatively too short*, its retina being nearer to the cornea than the focus for parallel rays is;

2nd.—Such an eye is *relatively weaker* in its refractive power, as it does not refract parallel rays enough to bring their focus to the retina;

3d.—It requires a certain amount of additional refractive power, to be supplied either by the accommodation, or by a glass lens, in order to bring parallel rays to a focus on the retina, that is, to adapt the eye for distinct vision of distant objects.

It is also to be noticed that the conventional measure of hypermetropia depends on the distance of the far-point behind the eye; we may measure this distance from some particular point, for instance, the anterior nodal point, situated about $\frac{1}{4}$ inch behind the cornea, and a convenient point of reference for certain purposes. If this distance is 10 inches, the amount of hypermetropia is $\frac{1}{10}$; if the distance is 20 inches, the amount is $\frac{1}{20}$; that is, the nearer to the eye the far-point (*when behind the eye*), the greater the amount of the hypermetropia.

If the amount is $\frac{1}{10}$, the glass to correct for vision of distant objects (supposing no accommodation active), is the convex whose focal distance is 10 inches plus the distance between the glass and the anterior nodal point; or, neglecting this latter, it may be said that glass $\frac{1}{10}$ corrects for distant objects hypermetropia $\frac{1}{10}$, as it gives to parallel rays such directions that the eye of itself without accommodation will refract them to a focus on its retina.

Apart from hypermetropia acquisita, hypermetropia is probably generally congenital, and often hereditary. It often depends on the comparative smallness of the antero-posterior axis of the eye-ball, the other dimensions being also smaller. The diminution in size is considered as owing to a defect of development, and this view is confirmed by the fact that in very high degrees of the anomaly we may find vision less than unity, even after the best optical correction by glasses.

A peculiarity of many hypermetropic eyes is that they appear to diverge, presenting an apparent divergent strabismus, even when the visual axes are properly directed. To understand this, it must be noticed that a distinction is made between the optic axis or axis of symmetry which passes through the middle of the cornea, and the visual axis, or line from the macula lutea to the object, supposing the eye looking at the object. This latter axis is not identical with the optic axis. Even in emmetropic eyes the visual axis intersects the cornea to the inside of its middle; and still farther inwards from the middle in hypermetropic eyes; and to such a degree as to cause the apparent divergence; the apparent direction depending in part, at least, on the position of the middle of the cornea.

We must now allude to an important division of hypermetropia into the *latent* and the *manifest*. It was seen above that in order to see distinctly a distant object, that is, to adapt itself for rays nearly parallel, the hypermetropic eye must either accommodate or have the aid of a glass lens. Of course it will at first accommodate instinctively; and as it does not see distinctly without accommodating, it will acquire the habit of so doing; a certain amount of accommodation will become a comparatively constant accompaniment of the eye. When we test such an eye to find its refractive state, it may not relax this amount of accommodation, or may relax it only in part, thus presenting a different apparent state of refraction from its real one. The difference between the real and the manifest is the *latent* hypermetropia.

Other divisions have been made according to the range of vision of the eyes; for instance, some hypermetropic eyes cannot without glasses see objects distinctly at any distance; others may without glasses see an object distinctly, but only by converging to a nearer point, seeing the object, therefore, monocularly.

A hypermetropic state of refraction may be due to other causes besides congenital smallness, or defective development of the eyeball; as, for instance, glaucoma, orbital tumors, or commencing choroidal tumors, these being of course more important than the optical symptom. According to Zehender, hypermetropia sometimes accompanies temporarily severe disease, such as "typhus" and pneumonia. An interesting special case of hypermetropia is *aphakia*, by which is meant the absence of the crystalline lens, or its removal from the optic axis; it presents a high degree of hypermetropia, together with absence of accommodation. This condition interests us as being the necessary result of the operation for cataract, but it may also be brought about by violence or disease, the optical state then being of subordinate importance.

Hypermetropia may be diagnosticated by the ophthalmoscope, or by trials of the vision with glasses. In the method by the ophthalmoscope, we are not dependent on the vision of the patient, except that a certain amount of vision is desirable in order that the patient may easily direct the eye conveniently for the examination. It is well to avail one's self of this method, because it is essential to use the instrument to answer other inquiries as to the presence of internal disease; for such disease would modify our advice with regard to glasses, as well as indicate other treatment. In the method by trial with glasses, of course, we depend on the statement of the patient of what he sees.

On the threshold of both these methods we meet the difficulty of latent hypermetropia, or unrelaxed accommodation. This we can obviate by applying to the conjunctiva a few drops of a solution of sulphate of atropia, gr. iv. to water fl℥i., about an hour before the examination. There are some objections to this means, as previously mentioned. We may often get a sufficiently correct result without it; yet, at times, it is desirable to resort to it.

In making use of the ophthalmoscope, we may promote relaxation of the accommodation by having the room quite dark, and without marked objects to attract the eye. We make use of the upright image.

Supposing the observer emmetropic, and adapted for parallel rays, and the patient not to accommodate, then the amount of hypermetropia is indicated by the convex glass through which the fundus is seen distinctly. The greater the degree of manifest hypermetropia existing, the stronger this glass would be. We therefore seek the strongest convex glass through which the fundus can be distinctly seen. Allowance must be made for the distance of this glass from the patient's eye, when we infer the amount of hypermetropia. If the observer is not emmetropic, he may consider the glass used as composed of two parts, one of which corrects his own ametropia, and the other indicates the patient's.

Again, another method is to use the simple mirror at a distance of several inches from the patient's eye. If the observer being emmetropic then gets a picture which appears to move in the same direction laterally as himself, it is probable that hypermetropia exists. The more easily and the farther off he can get this picture, the safer is it to infer hypermetropia; for, though in emmetropia, also, in similar circumstances we might get an upright picture, we should not so easily at a comparatively great distance, since the field of view would be smaller. We should thus learn the presence of hypermetropia, but not its amount.

We come now to the trial by glasses. The strongest convex with which the patient sees best in the distance indicates, if vision is normal, the amount of hypermetropia; if without atropine, the *manifest;* if with atropine, the *total.* If vision is normal, we infer simply hypermetropia; if vision is not normal, then we should look for other defect or disease, such as astigmatism or internal disease, inflammation, extravasations, amblyopia, &c.; and these might interfere with the exactness of the last test for the amount of hypermetropia. Opacities of the media may be looked for before testing the vision. It should also be remembered that the two eyes may not have the same refraction.

Again, we may try the vision for near objects. If the patient can read fine print through a convex glass $\frac{1}{8}$ distinctly at a distance considerably greater than 8 inches, he must be hypermetropic, since his eyes would then admit of being adapted for convergent rays.

Two important symptoms of hypermetropia are a form of asthenopia, or difficulty of prolonged use of the eyes on near work, reading, sewing, &c., and convergent strabismus. As to the former of these, after what has been said it will readily be conceived that it might easily occur. To adapt itself optically for a point at a given distance, say 14 inches, the hypermetropic eye must add to itself more refractive power than the emmetropic would be obliged to add for the same distance. This large amount of accommodation not being easily obtained while the eyes converge to the object, there is a tendency to converge to a nearer point, as thereby more accommodation can be exercised. But this excess of convergence would lead to double vision, which there is an instinctive tendency to avoid; and in order to avoid it, the externi muscles, it has been thought, are brought into action. Such eyes, then, must suffer from the increased effort to accommodate, and from the effort and pressure accompanying the increased action of the externi and interni recti muscles. Disagreeable sensations arise in and about the eyes. Finally, these efforts must be relaxed, vision becomes indistinct and the work must be temporarily suspended. It may, however, happen that the tendency to greater convergence accompanying the increased effort to accommodate is not counteracted by the externi. This is likely to happen if the visual power of one eye is considerably inferior to that of the other. In such case there would not be two equally good visual impressions to be combined, and therefore the influence of the motive of single vision would not be as strong. In such circumstances convergent strabismus is likely to occur in hypermetropic eyes, and we should expect the best eye to be directed to the object while the other turns inward from it.

But such a difference of visual power is not necessary in order for the strabismus to occur. The latter may be due to the externi being too weak to counteract the increased efforts of the interni; or it may simply be that easy and distinct monocular vision is preferred to the difficulties of keeping the two axes properly directed in the particular circumstances. If the two eyes are equally good there might be alternating strabismus; that is, sometimes one eye and sometimes the other would be directed to the object.

We thus see that in hypermetropic convergent strabismus the person affected gets a comparatively easy and distinct monocular vision, but loses the advantage of binocular vision. The double vision soon gets to be overlooked. It should be stated that the strabismus does not become confirmed at once, but that there is a period at first during which it is intermittent.

The principal treatment of hypermetropia is by means of suitable convex glasses. We may distinguish between near and distant vision and between young and old persons. Young hypermetropes having good accommodation will often be able to see well in the distance and with both eyes properly directed. In such case it is better not to wear glasses for the distance, because the eyes might become accustomed to the glasses so as not to see as well without them; and this would often cause inconvenience. Besides, if the accommodation is sufficient, it is preferable to use this rather than a glass.

But the patient, though young, may not be able to see well in the distance without converging to a nearer point. Glasses are then indicated to relieve the eyes from excessive accommodation and thereby to prevent, if possible, the abnormal convergence from becoming developed into confirmed strabismus.

Again, if the young hypermetropic patient has, without glasses, only imperfect vision in the distance, and if the vision is improved by glasses, they are indicated. In this and the preceding case the glass for the distance is the one which corrects the manifest hypermetropia. As the patient learns to relax his accommodation more, a stronger glass than that first selected will be required.

If the young hypermetrope has much near work to do, as sewing, reading, &c., the symptoms of asthenopia, as explained above, may show themselves quite early in life, and convex glasses are indicated. The glass must be somewhere between that corresponding to the manifest hypermetropia and the one corresponding to the total hypermetropia. The first number might be too weak, as even with it the patient still labors under a disadvantage, namely, the latent hypermetropia. The stronger number, the one corresponding to the total hypermetropia, would be too strong at first, before the patient had learned to relax the accommodation to correspond to the glass. The suitable number, lying between these two, must be determined experimentally.

In advanced life the accommodation diminishes, and the manifest hypermetropia differs less and less from the total. It may happen then that a person with a moderate amount of the anomaly does not see well in the distance. He then requires for the distance the glass which corrects the manifest hypermetropia.

In considering the glasses required in such case for near objects, we must remember that we have to deal not merely with the original hypermetropia, but with presbyopia superadded. We may, therefore, take from Donders's table for presbyopia the glass corresponding to the age of the patient, on the supposition of emmetropia, and add to this the glass corresponding to the manifest hypermetropia. If the sum of the two does not suit, we must experimentally correct it.

When hypermetropia is complicated with intermittent strabismus, the latter may be treated, as previously stated, by convex glasses, with a view to remove the motive to the excessive convergence. Another subsidiary treatment has been advised, consisting in the gymnastic cultivation of the strength of the external recti muscles, the details of which, however, would better be given in connection with the subject of strabismus.

When hypermetropia is accompanied by confirmed convergent strabismus, the latter may be treated by tenotomy of the internal rectus (one or both, according to the case), this allowing the eye to turn out by a certain amount. The defect of direction or deviation of the axis is thus approximatively corrected. The perfecting of the correction, or the finer adjustment, must depend on the instinctive desire for binocular single vision. The operation, even with its modern careful execution and subsequent corrections, simply reduces the defect to such a degree that the remainder can easily be remedied by the natural force of the muscles, acting under the desire of binocular single vision.

A very important question now presents itself. After the operation for convergent strabismus with hypermetropia, what glasses are needed? It was formerly considered that the hypermetropia should be fully corrected. It has latterly been suggested that it may sometimes be better to only partially correct it; for the reason that the new insertion of the tendon, farther back, the result of the operation, causes the respective muscle in turning the eye inwards to act at a mechanical disadvantage, in consequence of which the external rectus may become relatively stronger. There is then subsequently a certain tendency to diverge, which must be counteracted by calling into action the very process which at first caused the strabismus, that is, by leaving it incumbent on the eyes to exert a high degree of accommodation. Therefore it is advised in certain cases after the operation to only partially correct the hypermetropia.

DISCHARGE OF GALL-STONES AT THE UMBILICUS, WITH DISSECTION.

Case reported by J. B. S. Jackson, M.D.

In a former number of the Journal (Jan. 6th, 1870) Dr. Geo. W. Doane, of Hyannis, published an account of this case. The patient was an old woman, 80 years of age, and was attacked in December, 1868, with severe pain in the region of the liver, which continued about three weeks. About two weeks afterwards, a tumor appeared over the gall-bladder, and about the first of March it opened at the umbilicus and discharged a calculus. From that time until the following October, it was estimated that about one hundred calculi were discharged, but no more subsequently, at the time of Dr. D.'s report, though a free opening at the umbilicus remained until death, which occurred on the 30th ult.

The diseased parts were removed, and, at the request of Dr. D., they were sent to me by Dr. Pineo, of H., to be exhibited to the medical class. The liver was not much if at all enlarged, but extensively cancerous, and upon the anterior face of the right lobe there was a large and very deep depression. The gall-bladder was closely contracted about a calculus, of a rounded form, and about as large as the top of the thumb; and the fistula that led from it and opened at the umbilicus, was direct, and about the size of a small catheter. There were also two small, angular calculi in the gall-bladder, and two others in the cystic duct, which last was quite large.

In a note which Dr. Pineo sent with the specimen, he stated that the attachment to the abdominal wall was slight, but the organ adhered firmly to the upper part of the duodenum, and almost obliterated the passage. The stomach and intestines were apparently healthy.

December 15, 1870.

CASE OF CHOLERA INFANTUM WITH ANURIA FOR FIVE DAYS. RECOVERY.

By C. W. Stevens, M.D., Charlestown, Mass.

A child, aged one year, was taken suddenly, on Oct. 1st, 1870, with vomiting and diarrhœa. In the vomita were pieces of corned beef, which the mother had given to "harden her child." Oct. 4th, I was sent for, after the usual household remedies had been exhausted. Found the primary symptoms of Cheyne's hydrencephaloid disease. Not even a teaspoonful of water could be retained in the stomach, and there was an incessant diarrhœa of greenish mucus. Continual worrying. Ordered

Acetat. plumbi, gr. v.;
Acid acetic,
Tinct. opii, āā gutt. v.;
Glycerin, ʒiss.;
Aqua destill., ℥i. M.

One teaspoonful after vomiting.

One teaspoonful of cold barley-water was to be taken occasionally, and an enema of one tablespoonful of mutton broth every two hours.

Oct. 5th.—Had rejected both the barley-water and the lead mixture, but retained the enemata. Ordered

Hydrarg. chlorid. mitis, gr. i.;
Pulv. opii, gr. ¼;
Pulv. sacchari, gr. vii. Chart. vi.

One powder to be taken after vomiting. To take the froth of the white of egg and brandy nog.

Oct. 6th.—Second stage of spurious hydrocephalus—depressed fontanella, eyes sunken and rolled up, cold extremities, continual worrying, inability to rise from the cradle. Ordered hot bottles to feet and hot rum fotus to abdomen.

Oct. 7th.—Has vomited only once or twice. Has passed no urine for two days. Ordered two drops of spts. of nit. ether in a teaspoonful of barley-water, every half hour.

Oct. 8th.—Continued anuria. That it is suppression of urine as in cholera, and not simple retention, I assured myself by percussion. Ordered fomentations of hot cloths over the hypogastrium, and

Fol. buchu, ʒij.;
Sem. anisi, ℈i.;
Aqua, ℥viij.

One tablespoonful of the infusion every four hours.

Oct. 9th.—Stomach retains milk and water. Continued anuria. I gave at once six drops of paregoric, and ordered two drops to be given every half hour.

Oct. 10th.—The baby passed water for the first time in about four hours from the first dose of the paregoric. From this moment the child began rapidly to mend. I should add that mutton broth, oysters, and brandy and egg, had been regularly continued every day. I am of opinion that the paregoric was the most efficient aid in causing micturition. I was led to use it from the utility of camphor and opium in retention of urine.

Reports of Medical Societies.

BOSTON SOCIETY OF MEDICAL SCIENCES.

J. ORNE GREEN, M.D., SECRETARY.

June 7th, 1870. Dr. Knight in the chair.

Dr. Warren gave an epitome of Cohnheim's and Stricker's views on inflammation, accompanied by demonstrations on live frogs. A cornea, irritated by passing a thread through it, or by cauterization, soon becomes cloudy from the presence of pus-corpuscles in its substance, the corneal star-shaped corpuscles remaining normal. These pus-corpuscles vary in shape, owing to their power of contractility, and also change their position; the corneal corpuscles, however, have not this power of contractility, and retain their normal appearance, except in very advanced stages of inflammation, when they become more granular, retract their prolongations, and vacuatæ appear in their protoplasm, thus showing that they play no very important part in the inflammatory process. Cohnheim, by a series of experiments, claims that these pus-corpuscles have found their way into the cornea from without, for the cloudiness, he says, begins in the periphery, and gradually extends towards the centre. By injecting aniline into a bloodvessel of the animal experimented on, he found many of these corpuscles to contain blue granules, and hence concluded that they were white-blood-corpuscles. He now began the study of the bloodvessels of the frog. Rendering the animal insensible by an injection of woorara, the mesentery was exposed, and laid over a circular ring of cork, and fixed beneath the microscope. He found that there immediately ensued a dilatation of the arteries and veins, and a diminution in the rapidity of the circulation. The clear border of the vessels on each side of the stream of blood which previously existed, now disappeared, the corpuscles filling the whole calibre. On this border of the veins, the white corpuscles collect until the whole surface is lined by a single layer of these cells. From the external wall small bud-like projections are now seen; these vary in shape, increase in size, become attached to the vessel only by a pedicle, which finally disappears, and we see, external to the vessel, a colorless cell, which cannot be distinguished from a white blood-corpuscle. The contractile amœboid movements of the white blood-cell begin as soon as it is arrested in the circulation; it can be caught in all stages of passage through the vein wall, and is sometime divided during this passage into two parts. Examination of the normal epithelium lining the vessel shows stomata between its cells, and by dilatation of the vessels these openings become large enough to allow the passage of blood-corpuscles into the outer layers of the vessel-wall, and from here, by these amœboid movements, they can readily insinuate themselves in all directions. The red corpuscles do not have these movements. During all these changes in the bloodvessels the nuclei of the connective tissue and epithelial cells remain unchanged.

In organs where the capillaries are very numerous, these vessels take part in the process, and red-blood-corpuscles are sometimes mixed with the exudation, the force of the stream of blood having probably ruptured the wall. Cohnheim concludes from his experiments that the pus-cells are derived from the blood; that some *do* come from the blood he considers proved. According to his theory, bloodvessels are necessary for inflammation; injection and hyperæmia are the first stage of the inflammatory process. In vascular organs, this injection and hyperæmia occur in the vessels of the organ, in non-vascular organs in the vessels in the neighborhood, the pus-cells reaching the organ through the lymphatic canals. Cartilage is the only tissue which has no bloodvessels and no lymphatic canals; in this no genuine suppuration has been seen.

Stricker claims that the white corpuscles of blood are not the only source of pus-cells. He says the pus-cell itself proliferates, and that this is the source of the greater mass of pus-corpuscles; epithelium and connective tissue corpuscles and muscle cells he claims also multiply themselves, and hence he considers that pus is derived from all these various sources. In inflammation, according to Stricker, we have local disturbance of circulation, increased exudation of the fluid and formed constituents of blood, disturbance of nutrition, and consequent growth of cellular elements. The irritation of an injury Stricker considers as transmitted not from cell to cell, as Virchow supposed, but as acting on the vessels, disturbing circulation and so the nutrition.

The mass of the pus-cells Dr. W. considered to be formed from the white blood-corpuscles, which leave the blood in vast numbers, and multiply indefinitely after their exit.

The mesenteries of frogs, prepared according to Cohnheim, were shown by Dr. W., and an opportunity given to see the inflammatory process which had been going on for some hours.

Dr. Ellis did not consider that the foundation of the question of inflammation was by any means settled; if proliferation from connective tissues was even once possible, as claimed by Virchow, he thought we must deny the necessity of bloodvessels in the inflammatory process.

Dr. Dwight said that Cohnheim's statement, that the cloudiness begins on the periphery of the cornea, had been denied by some authors, who claimed that pus was first formed in the centre; in that case the pus-corpuscles must come from the corneal elements.

Dr. Jeffries stated that Wharton Jones, in Guy's Hospital Reports on the "Failure of Sight from Railroad and other Injuries," said that he had never been able to see the white corpuscles pass through the walls of the bloodvessels; that he did not agree either with Virchow or Cohnheim.

Dr. White mentioned a case of leucocythæmia, in which the autopsy revealed two large collections of pus-like matter (one containing more than a quart), which had formed without any apparent inflammation.

Dr. Ellis stated that Ranvier, of Paris, speaks of the escape of white blood corpuscles forming collections in leucocythæmia, and mentioned a case which came under his own observation many years ago, in which the white corpuscles had collected in such quantities in the veins as to resemble an abscess.

Dr. Ellis then read a paper on the general dissemination of disease, and the connection of the organs with each other, since published in this Journal, Oct. 13, 1870.

Dr. Webber thought that many facts in Dr. Ellis's paper were dependent on the laws of nutrition. He did not consider that the cell and nerve theories explained all the known facts of disease, and thought that the collection of such papers as that just read would gradually show the connection and sympathy between different organs, some few of which are already known. He considered that the nervous system played a prominent part in this connection of the organs.

Dr. White suggested that Dr. Ellis, in his paper, had laid too little stress on the chemical processes which help produce the changes spoken of.

Dr. Dwight thought that the ganglia of the pneumogastric would give a connection between many of the internal organs and the brain, and would explain the facts mentioned by Drs. Ellis and Webber of patients with long standing disease of brain dying with disease of lungs. The pneumogastric, he said, had more numerous and intimate connections than even the sympathetic.

Dr. Greenough considered that the original cause of disease, whatever it was, might affect both lung and brain, and he did not consider it necessary to suppose that one disease followed the other.

Dr. Ellis did not agree with Dr. Greenough.

Dr. White showed some very perfect octahedra of the sulphate of strychnia, and explained the method by which they were prepared. To detect the alkaloid poisons, it was customary to dissolve the suspected substances in alcohol and acid, neutralize and then dissolve out the alkaloid by some solvent, usually either ether or chloroform. Chloroform was the best solvent for strychnia, but by shaking it a jelly was formed, in which it was difficult to find the crystals. By using benzole, however, as in this case, instead of chloroform, we avoid the jelly, and get a more powerful solvent of the strychnia than ether.

On evaporation more perfect crystals are also found than from the chloroform solution.

Medical and Surgical Journal.

Boston: Thursday, December 22, 1870.

ANNUAL REPORT OF THE SURGEON GENERAL, UNITED STATES ARMY.[*]

The Annual Report of the Surgeon General includes the usual statistics of the standing army, representing at the present time an average mean strength of 29,022 white and 3407 colored troops. The statistical tables, as would naturally be expected, give in full much valuable information and show evidence, as we are fully confident, of a large amount of hard work by Drs. Crane, Otis, Woodward, Billings and others.

A great many of the members of our profession are entirely ignorant of the fact that in the Surgeon General's office at Washington, and in the Army Medical Museum, there is annually performed a large amount of very valuable scientific work. Many of us are in possession of the entire series of monographs from that office, but many are also unaware that the publications issued since the close of the War of the Rebellion are unsurpassed in the history of military medicine and surgery, and are so acknowledged by the most distinguished men of every country. We wish me might have space to lay before our readers some of the testimony to the worth of these volumes given by such men as Sédillot, Longmore, Larrey, Legouest, Romberg, Didot and others; but must confine ourselves to the report proper, from which we make liberal quotations. We feel it due to the gentlemen at Washington to state what they are doing in behalf of the profession.

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[*] Annual Report of the Surgeon General, United States Army. Washington, D. C. 1870. Pp. 10.
Memorandum referring to Extracts from Letters, Reviews and Bibliographical Notices of the Publications of the Surgeon General's Office. Washington, D. C. 1870. Pp. 18.

"The printing of the medical volume of the first part of the Medical and Surgical History of the War is near completion. This volume embraces the statistical tables representing the sickness, mortality and discharges from service on surgeon's certificate of disability, of *white* and *colored troops* during the war, and will be a work of nearly seven hundred and fifty (750) pages, quarto. To secure accuracy, the tables were stereotyped as they were finished, and before finally sending them to press they have been thoroughly revised throughout, and every effort made to attain accuracy. With this volume will be bound the appendix to the first part of the Medical and Surgical History of the War, containing the reports of medical directors, and other appended documents—about four hundred (400) pages.

"The whole of the manuscript for the surgical volume of the first part of the Medical and Surgical History of the War, authorized by the Act of Congress, approved March 3, 1869, is now prepared, and several of the more important subjects that would belong to the second volume, as, for example, the tabular statements, discussions, histories of typical cases (with illustrative wood-cuts and lithographs) of twenty-nine thousand five hundred and seventy-two (29,572) cases of amputations, and four thousand seven hundred and seventy-five (4,775) excisions, are nearly perfected. Besides this, the surgical statistics of the Army for the five years succeeding the war have been consolidated and arranged for publication, and much information has been furnished to authenticate just claims of applicants and to defeat those that were fraudulent under the Act of Congress authorizing the issue of artificial limbs to mutilated soldiers and seamen. The effect of this law, in bringing to Washington a large number of pensioners to present their claims, has permitted the study of the remote effects of injuries and mutilations. The peculiar value which the surgical data of the late war have acquired in consequence of the measures taken to trace the ulterior results of the more important cases cannot be over-estimated. In the reports of the surgery of European wars, and of campaigns in India, Abyssinia and elsewhere, the history of cases terminated when the men were invalided or discharged. Although the elaborate reports of the casualties of the French armies in the Crimean and Italian Wars were published in 1865 and 1869, after an interval of ten years from the conclusion of hostilities in each case, no information is given subsequent to the date of discharge or pension. * * *

"The collections of the Army Medical Museum were augmented by the additions of one hundred and nineteen (119) specimens to the surgical section, seventy-three (73) to the medical, seven hundred and sixty-six (766) to the microscopical, one hundred and sixty-nine (169) to the anatomical, one hundred and forty-four (144) to the section of comparative anatomy, and eleven (11) to the miscellaneous section. The number of catalogued specimens at the date of my last annual report was twelve thousand two hundred and twenty (12,220), and is thus increased to thirteen thousand five hundred and two (13,502). Great success has been obtained in the microscopical section in the direction of photomicrography.

"There has been a very steady and uniform increase in the various collections of the Army Medical Museum. The Indian hostilities, and the accidents of the field and camp and garrison, have afforded the opportunity of collecting some illustrations of the injuries inflicted by weapons—a class of specimens in which the Museum is already surpassingly rich—but the more numerous contributions to the surgical section have been of specimens illustrating pathological processes, or the remote effects of injuries.

"The collections now include eight hundred and ninety-seven (897) human crania, and (34) skeletons. Elaborate tables have been prepared, exhibiting their measurements. The diameters, facial angle, internal capacity, and position of the *foramen* *magnum* are indicated for each cranium. It is hoped that the publication of this important contribution to anthropological knowledge will be authorized by Congress. The tables, arranged to correspond with those published in the *Crania Americana* of Samuel George Morton, would worthily supplement that great work. The Museum possesses a larger number of skulls from tumuli, and of crania of North American Indians, than are elsewhere collected, and it would appear due to ethnologists throughout the world that descriptions of the specimens should be published, as was done by the Russian Government for the collection of Professor von Baër at St. Petersburg.

"Thirty-six (36) quarto volumes, each containing fifty (50) photographs of surgical cases, with descriptive letter press, have been distributed to the principal medical schools and societies in this country and Europe. The expressions of appreciation with which they were acknowledged by the leading surgeons of New York and Philadelphia, of London, Paris, Berlin and Vienna, are a legitimate source of gratification, as evidences of the success of this office in making known to the surgical world the 'dearly bought lessons of the war.'

"The relations of the museum with other institutions, with a view of interchange of specimens, have been extended. A valuable series of casts of anatomical specimens was received from M. Quatrefages, of the College of France. Specimens have been exchanged with mutual advantage with the Smithsonian Institution, the Agricultural Bureau, the Museum of the College of Physicians of Philadelphia, the Museum of the New York Hospital, the Peabody Museum at Cambridge, the Blackmore Museum in England, and the anatomical collection at Oxford, England.

"Thirty (30) volumes of photographs, and many duplicate osteological specimens and plaster casts, are now on hand for exchange.

"It is scarcely necessary to adduce proofs of the practical utility of the collections of the Army Medical Museum. Besides affording a field of study for medical officers, indispensable to the acquirement of the fullest knowledge of the special duties required of them, the illustrations of military surgery and of camp diseases contained in the cabinets have greatly promoted general professional knowledge on these subjects; and it is noticeable that, in the standard systematic work on surgery by Billroth and Von Pitha, in the last edition of the English System of Surgery by Holmes, in Didiot's 'Service de Santé des Armés,' and in nearly all works on military medicine and surgery printed in the last five years, the majority of the wood-cuts are derived from the specimens in the United States Army Medical Museum.

"It is a matter of gratification that, as the purposes of the museum have become more widely known, many field and line officers of the army, and many practitioners in civil life, have sent contributions to it. Many donations of natural history specimens, of stone implements, and objects of archæological interest have been received, and have been very valuable as articles of exchange with other museums, for objects more strictly pertaining to the province of the Army Medical Museum."

Iron Cottages and Hospitals.—Mr. Jones, of Aspatria, England, has designed a movable metal cottage, which he proposes to use for hospital purposes. He recently displayed a model of his design at the meeting of the British Medical Association. Such a building could be put up in sections at short notice on the occurrence of an epidemic, or even for a permanent hospital. It is questionable, however, if the plan proposed could be employed with advantage in our cold climate. Personally, we have felt convinced that the most satisfactory building for hospital purposes is the modern barrack hospital employed in our late war: because, in the first place, it approaches most nearly to the tent or the open-air system of treatment; and, secondly, because its cheapness will allow of its removal and destruction every two or three years and its replacement by a new construction. Practically, however, it cannot be supposed that such a system would be adopted in a city, or in any position where permanence and architectural display are considered superior to the well-being of the patient.

On Sept. 30th, Staff Surgeon Dr. Kemperdick experimented in Berlin with a new chirurgical instrument, the electric bullet-seeker, constructed from an English model by a surgical instrument maker in that city. It consists of a probe formed of two thin and very flexible metal rods, which terminate below in a knob. Each of these rods is covered with silk thread from top to bottom, so that they are completely isolated from each other; besides this, they are wrapped up together in an outer layer of the same material and varnished. The whole thus presents the appearance of a bougie, with a metal knob at one end. The instrument is now brought into connection with an electric chime; and when the knob, which forms the two poles of the apparatus, comes in contact with a metallic body, the isolation of the two rods ceases to exist, the electric circle is completed, the apparatus comes into action, and the hammer strikes the bell unceasingly. At the first trial, Dr. Kemperdick succeeded in finding a ball lodged in the bones of the foot, which had been vainly sought for during six weeks; thus taking the first step toward the radical cure of the patient.—*Army and Navy Journal*, Nov. 5, 1870.

The instrument described above is the same as was shown and described by Dr. Bowditch, at the last meeting of the Suffolk District Medical Society.

Intussusception in an Infant cured by Inflation of the Bowel.—W. S., aged six months, admitted into Guy's Hospital March 28, 1870. The child appeared in perfect health until yesterday afternoon about four o'clock, when, while sucking a crust of bread, he suddenly screamed out, fainted, and became cold. The mother took him to a doctor, who gave him a powder, which made him very sick. He continued in great pain, and cried incessantly. At three o'clock this morning he passed a quantity of clotted blood per rectum, and this continued to run from him until he was admitted into the hospital, at 12 o'clock. The last fæcal evacuation took place at noon the previous day.

On admission, the child was seen to be well grown, but face pale, and had a generally collapsed appearance. On examining his abdomen, a lump was distinctly felt to the left and above the umbilicus, which hardened when pressed upon. On passing the finger up the rectum, a round projection could be felt about four inches up, with a circular orifice in the centre. The finger, when withdrawn, was covered with blood. The case being thus clearly one of intussusception, Dr. Wilks ordered inflation of the bowel by means of a bellows. Chloroform was given, and an enema tube passed into the rectum, the other end being attached to the bellows. The attempt to inflate was at first unsuccessful, owing to the large size of the rectum; but by increasing the width of the tube by wrapping a strip of lint round it, the colon was well inflated, and then the lump gradually went back until it quite disappeared. A drop of [tr. ?] opium was ordered in a drachm of dill-water, and the breast to be given sparingly.

On the following day, March 29th, no lump could be felt. The child had been sick several times, and nothing had passed per rectum. To repeat the medicine.

March 30th, child very irritable; apparently much tenderness over abdomen, especially toward the right side. Occasionally sick. Passed a little blood, but no fæces.

31st, evidently better. Had a liquid evacuation with no blood, and sucks well.

April 1st, passed a natural motion, and altogether better.

2d, child apparently well, and taken out by the mother, who was somewhat discontented at the operation performed on him, as she never could be made to realize the severity of the case.

He remained well until the 10th, when he was brought to the hospital, having had fresh bleeding, and the lump could again be felt. The mother would not allow the child to be again taken in for the purpose of a renewal of the method which had been before so successful, but took him away for the purpose of procuring some physic for him; and no more was heard of the case. —*Lancet*, May 21, 1870.

Asymmetry of the two Halves of the Body. By Prof. Humphry.—The Professor describes a young woman, aged 20, who was brought to him as a patient. He remarked on the peculiar appearance of the face, and was informed by her mother that she was born so and with one arm longer and larger than the other. On careful investigation, the whole of the right side of the body was found larger than the left; the difference being most marked in the upper limb, which measured, from the acromion to the end of the little finger, two and a half inches more on the right side than on the left. In the lower limbs the difference was but half an inch. Other measurements gave a proportionate difference in the length and girth of the several parts of the limbs.

The right mamma is seen to be a good

deal larger than the left, and the right cheek and jaw seem as if swollen in comparison with the left. In fact, the crown is higher, the chin lower, the forehead and occiput more prominent, the cranial circumference a half incher greater, and the teeth less crowded upon the right side. The raphe of the lips, chin and tongue are to the left of the median line; the right half of the tongue forms the tip, and the right tonsil is larger. The right eye, owing to its "backwarder" situation in the orbit, and to the fact of the lids not being opened as widely as on the left side, *appears* smaller.

She is right-handed, is decidedly stronger with the right side, and presents no abnormality of function in any respect, nor any evidence of previous disease, the trouble which she wished cured being merely an affection of the scalp.

The only similar case which the author finds recorded is one by Broca. The subject was a boy, aged 11, in whom the left half of the body exceeded the right so much as to give the impression that he was formed by the union of two halves from two persons of different size and strength. For the distance from the crest of the ileum to the internal malleolus, the left side was superior to the right by 5·5 centimetres; from the acromion to the styloid process of the radius, by 2 centimetres. The measurements of the head differed correspondingly; the hearing of the left ear was much more acute than with the right, and the left eye more open than the right. The difference in this case also was congenital. —*Journal of Anatomy and Physiology.*

NEW OPERATION FOR ERECTILE TUMORS.—At a recent meeting of the Belgian Academy of Medicine, M. Michaux gave an account of a new mode of procedure he had adopted for the treatment of erectile tumors. During the thirty-four years that he has been engaged teaching clinical surgery at Louvain, he has had abundant opportunities of putting the various modes of treatment, that have been recommended from time to time, into force, and has communicated the results to the Academy. The present plan, which he regards as preferential to all others, consists in a combination of Guersant's *cautérisation actuelle parcellaire* with the employment of the perchloride of iron. He had heretofore frequently had recourse to this mode of cauterization, and found himself obliged to have recourse to the perchloride in order to arrest the hæmorrhage which ensued on the cauterization. He soon, however, remarked that this application contributed greatly to the cure of the tumor, and therefore he resorted to its use in cases in which the cauterization gave rise to no bleeding.

"At the present time this is the way in which I treat erectile tumors, whatever may be their description, seat, or size:—With one of Guersant's needles, heated to whiteness, a track is practised on the tumor, either directly or by piercing the skin at a certain distance from it. Several needles may be placed in the same track, but that is not indispensable. As soon as the cautery is withdrawn, I substitute for it tents of charpie, soaked in perchloride of iron, and prepared beforehand. I thus plug the aperture until no more blood flows, and have the charpie *in situ* until suppuration is well established. I then replace these tents by others, taking care to increase the detachment, and repeat this dressing every day or every other day, according to the amount of suppuration. In this way I destroy entirely the erectile tissue, invading it in every direction with the charpie soaked in the perchloride. If the tumor is very large, several punctures may be made; and if cutaneous arterial spots (*taches*) persist, they may be painted with the perchloride or cauterized by Guersant's needle."

M. Michaux observed, in conclusion, that the practice was a certain one, unattended with danger, and easy of execution; while the same results are not obtainable either by using the caustic alone or by the injection of the perchloride—this last being sometimes dangerous by producing gangrene.—*Med. Times and Gazette.*

CRUVEILHIER'S ATROPHY.—The Medical Society of the College of Physicians of Ireland held its first meeting on the 16th of November. The President, Dr. Banks, read a communication on "Cruveilhier's Atrophy." The first case he detailed was under his care since 1858, and he had published the facts in 1860. The subject was 34 years of age, came of a very healthy family. Having caught cold, he commenced to suffer from persistent pain in his right arm, which after some time resulted in weakness in his right thumb, extending afterwards to the right, and subsequently to the left. Examination showed considerable atrophy of the muscles of the arm and hands. The treatment in hospital consisted in the application of electro-magnetism, and the internal administration of syrup of phosphate of iron, quinine and strychnia, which was attended with considerable benefit, that remained established for some years, and until he suffered from a severe sickness, since when he steadily got worse, his lower extremities became paralyzed, and he is now in a moribund condition. The second case was that of a lady, whose father had been the subject of locomotor ataxy, and had died of apoplexy. The treatment was similar to that adopted in the previous case, but without the least effect, the disease commencing in the thumb, and in fifteen months involving the lower extremities. In the last stage of the malady there was a very marked difference in development between the face and other parts of the body. Hyperæsthesia is one of the prominent symptoms. In the third case complete recovery resulted, although the symptoms had reached so advanced a condition, that the patient was able neither to write, feed himself, or walk. Dr. Banks quoted three other cases, in one of which the symptoms had made no advance for six years, while in the others the progress was rapid, the disease commencing in the left leg in one, and in the left arm in the other. He remarked that up to a recent date this disease was considered absolutely incurable.

Sir Dominic Corrigan considered that it was not necessary to assume any lesion of the spinal cord as the cause of the local paralysis. He narrated the case of a gunner on board ship, who, at the age of 33, became disabled, suffering from complete atrophy of the deltoid. In this case he had failed to discover the least central disease. Sir Dominic Corrigan had treated the case by stimulation of the capillary nervous system with perfect success.—*Med. Press and Circular*.

A New Method of Effectually Remedying the Defect of Hare-lip.—Dr. Wm. Stokes, Jr., Surgeon to the Richmond Surgical Hospital (*Dublin Quarterly Journal*), presents, with plates, an ingenious operation for remedying the congenital malformation called hare-lip, which prevents the formation of a notch; also gets rid of the chance of that defect subsequently occurring. By his operation he gets rid of all the defects of other procedures, in which, in part or entirely, the principle of the utilization of parings has been adopted. For—

First. No subsequent curtailment of the projection at the lower extremity of the cleft is necessary.

Second. The procedure is applicable to all forms and varieties of hare-lip.

Third. There is no chance of portions of the soft tissues perishing from any twisting of them.

Fourth. There can be no subsequent puckering.

Fifth. There can be no subsequent notch, as previously mentioned.

Sixth. The possibility of any vertical sulcus or groove in the line of the cicatrix is also prevented, which is the case after Sédillot's, Malgaigne's, Samuel Smith's, and other operations.

(The reader is referred to the author's extended remarks upon the operation, accompanied with cuts, which are so interesting and connected that we should do injustice to Dr. Stokes by making extracts.)

As regards the time which is best for the performance of operations remedying this defect, surgeons are much divided in opinion; some eminent operators maintaining that where it is possible all such operations should be performed before dentition, while others hold that better results are obtained in all cases where the procedure has been deferred until a later period. His experience leads him to adopt the views of the latter class, and his reasons are as follows:—*First*. That the structures at the period of life previous to dentition are so weak, soft, and pulpy, they are ill able to bear the continuous pressure of the needles and sutures, and that consequently they are specially liable to the occurrence of ulceration and the subsequent formation of transverse cicatrices. *Second*. The hæmorrhage, which, even though it be extremely slight in amount, is, in very young subjects, fraught with some danger. *Third*. There is much difficulty in executing any of the plans that have been devised for the avoidance of the defects which sometimes subsequently occur. In support of his opinion he has the high authority of his colleague, Mr. Adams, and the late Dr. Samuel Maclean, who went so far as to assert that, if possible, in all cases operation should be deferred until after second dentition.—*Med. Record*.

Dr. Ogle thinks it may be found that in tetanus the temperature always increases in the evening, and that a guide may thus be given for diagnosticating true tetanus from certain affections of the spinal cord and its membranes, certain cases of hysteria, and poisoning by strychnia or other substances. —*Medical Gazette*.

Medical Miscellany.

Charlestown Society for Medical Improvement.—A large number of the physicians of Charlestown met Dec. 13th and organized a new society, to be known as the Charlestown Society for Medical Improvement. A constitution, drawn up after the plan of the one adopted by the Medical Improvement Society of Boston, was adopted. Drs. McDonald, Dearborn, Herrick and Crozier were elected a prudential committee, and Dr. E. J. Forster was chosen Secretary. The future meetings of the Society will be held on the second and fourth Tuesdays of each month.

In the *Neues Repertorium für Pharmacie*, Bd. xix. Heft 5, Emil Werner shows conclusively that *Ricinin*, the alkaloid discovered by Tuson in the castor-oil bean, is no alkaloid, but a double salt of magnesia and potash, with some organic acid, probably one peculiar to the bean.

In the same work, MM. Lucian de Koninck and Paul Marquart state that they have found a new nitrogenous neutral substance, bryonicin, in the roots of Bryonia alba. It is insoluble in cold water, solutions of lime or ammonia, and dilute mineral acids. Boiling water and strong muriatic acid dissolve it slightly; whilst alcohol, ether, chloroform, and benzole dissolve it readily. With strong sulphuric acid it rapidly produces a solution of a blood-red color.—*Phil. Med. Times.*

Climate of Algeria.—Dr. Henry Bennett says that Algeria comprehends a country of 400 miles long from east to west, and some 120 miles from north to south, where Sahara commences. None of the mountains are more than 7,000 feet high. There seems to be only thirty days of wind blowing from the desert annually; during the rest of the days of the year a moist sea-breeze blows. Six-sevenths of the rain falls in the winter season, and as much as forty cubic inches fall in the year. Thus Algeria is a very moist climate in winter. The valleys and mountains have a luxuriant vegetation. The climate is rigorous in winter in many parts, but Algiers town seems of mild climate. Algeria is thus, on the whole, a mild and moist climate, not suitable for patients with tendency to phthisis pulmonalis. The east coast of Spain is dry and warm; only fourteen inches of rain-fall in that district, and it is better suited for such invalids. Idiopathic asthma and neuralgic cases, he thinks, might be benefited by living in Algeria.—*Dublin Medical Press and Circular.*

The subjoined episode of volunteer surgery we extract from a daily paper:—

Every Man his Wife's Surgeon.—The Lee (Mass.) *Gleaner* gives currency to a rumor that a man in Otis, whose wife had long suffered with a running sore upon her leg, became tired of listening to her griefs and caring for her diseased member, and so he bound the woman upon a bench, and with a butcher knife and handsaw cut her leg off. Of course he knew nothing of taking up bleeding arteries, and death soon came to the relief of the sufferer. He then took the body in a wagon to Lee for burial. Arriving at the cemetery late at night, he laid it upon the ground, covered it up, and left it till the next day for burial.—*N. Y. Medical Gazette.*

Death by Chloroform prevented by Electricity.—On the 22d of November, 1866, Dr. Danzel administered chloroform for the removal of a cancer. After the operation the patient ceased to breathe, and opening the windows, artificial respiration and all other agencies proved of no avail, when recourse was had to electricity. One pole of the battery was applied to the neck, the other to the epigastrium. There was soon a movement of the muscles, and by degrees the respiration was restored. There is no doubt that death would have ensued without the application of electricity, and as this remedy has been applied with success in several other cases, it is worthy of note on the part of physicians generally.—*Journal of Applied Chemistry.*

To Correspondents.—Communications accepted:—Report of Passavant's Operation, with and without Ether, and also under Nitrous Oxide.—Three Cases of Surgery.—A Case of Eclampsia, before and after Labor; Notes from an Obstetrical Case Book.—Bleeding in Puerperal Convulsions.

Pamphlets Received.—Histological Contribution. By H. G. Piffard, M.D., Surgeon to the New York Dispensary for Diseases of the Skin. Pp. 4.—An Essay on the Treatment of Aneurism, with Experiments for the Closure of Arteries by a New Method. By Benjamin Howard, A.M., M.D., of New York. Extracted from the Transactions of the American Medical Association.

Deaths in sixteen Cities and Towns of Massachusetts for the week ending Dec. 17, 1870.

Cities and towns.	Total.	Prevalent Diseases. Consumption.	Pneumonia.	Croup and Diphtheria.
Boston . . .	102	23	6	3
Charlestown	14	4	2	0
Worcester .	15	4	2	1
Lowell . . .	15	3	1	3
Milford . . .	3	0	1	0
Chelsea . . .	7	3	1	0
Cambridge .	9	5	2	0
Salem	6	0	0	1
Lawrence . .	6	2	0	2
Lynn	6	2	0	0
Fitchburg . .	2	0	1	0
Newburyport	5	1	1	1
Somerville . .	7	0	1	0
Fall River .	9	1	1	2
Haverhill . .	2	0	0	0
Holyoke. . .	10	0	1	1
	228	48	20	14

Holyoke reports seven deaths from smallpox.

George Derby, M.D.,
Secretary of State Board of Health.

Deaths in Boston for the week ending Saturday. Dec. 17th, 102. Males, 49; females, 53. Accident, 1—apoplexy, 3—inflammation of the bowels, 1—disease of the brain, 3—bronchitis, 7—consumption, 23—convulsions, 1—croup, 4—debility, 8—diarrhœa, 5—dropsy, 1—dropsy of brain, 2—scarlet fever, 2—typhoid fever, 4—gastro-stenosis, 1—disease of heart, 4—"indigestion," 1—disease of the kidneys, 2—disease of the liver, 1—congestion of the lungs, 2—inflammation of the lungs, 4—marasmus, 3—old age, 5—paralysis, 1—pleurisy, 1—premature birth, 2—peritonitis, 1—puerperal disease, 3—unknown, 5.

Under 5 years of age, 33—between 5 and 20 years, 7—between 20 and 40 years, 26—between 40 and 60 years, 15—above 60 years, 21. Born in the United States, 66—Ireland, 25—other places, 11.